

# NOTES ON THE NATURAL HISTORY OF THE RARELY RECORDED AGAMID LIZARD *CAIMANOPS* *AMPHIBOLUROIDES* IN WESTERN AUSTRALIA

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## ABSTRACT

Ecological data on the seldom encountered and little known agamid *Caimanops amphiboluroides* are presented. *Caimanops* is arboreal and is usually associated with mulga trees and fence posts. Average height above ground of 10 active lizards was 79.5 cm. Average body temperature of 13 active lizards was 36.6°C. These lizards are dietary specialists, feeding mostly on termites. Average clutch size is 12 (N=2).

## INTRODUCTION

*Caimanops* is a monotypic genus found only in Western Australia (Cogger 2000, Storr 1974). During 1967–1968, my field assistant and I encountered a small population of these elusive agamids at the Atley area (Lat. 28° 27' x Long. 119° 05'). This sample was augmented with a few others collected incidentally on nearby areas.

## METHODS

We recorded air and body temperatures, activity time (decimalized for statistical convenience), microhabitat, fresh snout-vent length (SVL), tail length, and weight for as many lizards as possible. Stomach

contents were identified and prey volumes estimated for all lizards collected [some of these data were summarized in appendices in Pianka (1986)]. Dietary niche breadth was calculated using the inverse of Simpson's (1949) index of diversity [ $D = 1 / \sum p_i^2$ ] where  $p_i$  is the proportion of prey category  $i$ .

## RESULTS

**Size.** Snout-vent lengths ranged from 38 to 99 mm. Females averaged 81.4 mm, males 76.7 mm.

**Microhabitat.** Most *Caimanops* were from 60 to 120 cm above ground (mean = 79.5, N = 10) when first encountered (Figure 1). Most were facing upwards. Of three that were on the ground,



Figure 1. *Caimanops amphiboluroides*.

presumably foraging, one was under a small bush in the shade, another was in the open shade and ran to a clump of grass, a third was in the open sun and walked to open shade, then ran to the edge of open sun/shade.

**Time of Activity.** *Caimanops* were active during the middle of the day from 10.25 to 17.7hr. (Average =13.9) see Figure 2).

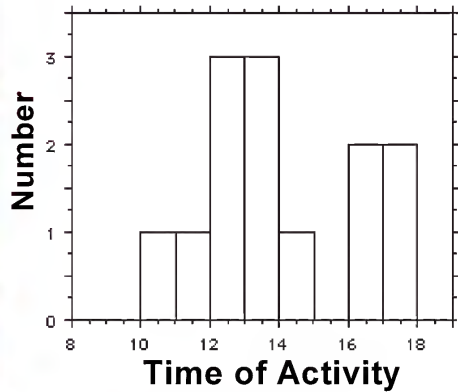


Figure 2. Histogram of times of activity (N=13).

Table 1. Summary of stomach contents of 13 *Caimanops*.

Prey Category	Number	Number %	Volume	Volume %	Frequency
Centipedes	2	0.21	0.25	2.48	2
Ants	52	5.39	0.56	5.54	8
Locustids	1	0.10	0.3	2.97	1
Isoptera	892	92.54	6.71	66.44	10
Dermaptera	1	0.10	0.02	0.20	1
Larvae	1	0.10	0.2	1.98	1
Other Insects	1	0.10	0.05	0.50	1
Vegetative	6	0.62	0.85	8.42	6
Unidentified	8	0.83	1.16	11.49	8
Total	964	100.00	10.1	100.00	38

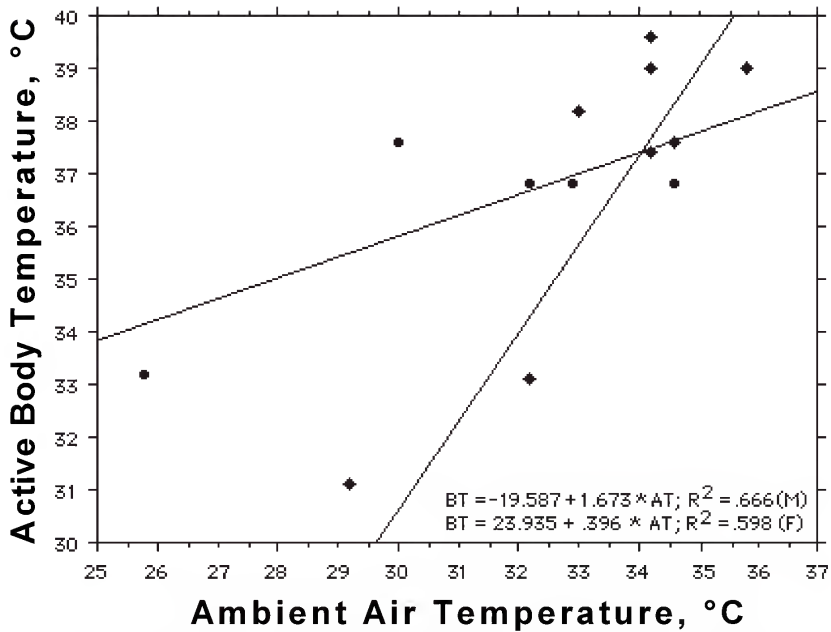


Figure 3. Body temperatures plotted against ambient air temperature for 13 *Caimanops*. Circles represent 5 females, 8 males shown as diamonds. Least squares regression lines are shown for each sex and equations are given at the bottom right.

**Thermal Relations.** As in most diurnal desert lizards, active body temperatures of *Caimanops* are positively correlated with ambient air temperatures (Figure 3). Average body temperature of 13 active lizards was 36.6°C. Average for 5 adult females was 36.2°C and for 8 males including two juveniles was 36.9°C. Many males had slightly higher body temperatures than females.

**Diet.** *Caimanops* is a termite specialist with a narrow dietary niche breadth of 2.14 (Table 1). Six individuals had eaten small amounts of vegetative material.

**Reproduction.** Two females collected in December contained

enlarged yolked follicles in their ovaries but none were found with shelled eggs in their oviducts. Clutch sizes appear to be large: 10 and 14. Average snout vent length (SVL) of these two adult females was 95 mm. Average SVL of three adult males was 84.3 mm.

## DISCUSSION

*Caimanops amphiboluroides* is among the rarest and least encountered species of Australian desert lizards (Pianka 2011, 2014). Present at very low density at only one of my ten study sites, it is also a dietary specialist with

high niche overlap with many other species, all factors that could contribute to its rarity.

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